

Having described the invention, the following is claimed:

1. A process for forming a steel sheet comprising the steps of:

providing a slug of steel, said slug of steel being selected from the group consisting of austenitic 301 steel and austenitic 301N steel;

reducing the thickness of said slug by passing said slug through a hot rolling mill while said slug is at a temperature of about 1000°C to about 1200°C, until said slug is formed into a steel sheet;

quenching said steel sheet to lower the temperature of said steel sheet after hot rolling; and

reducing the thickness of said steel sheet by passing said steel sheet in multiple passes through a cold rolling mill, said steel sheet being reduced between about 3% and about 13% in the last of its said passes through said cold rolling mill.

2. The process of claim 1 wherein said slug comprises austenitic 301 steel and said steel sheet after reducing the thickness said steel sheet by passing said steel sheet through said cold rolling mill

has a tensile strength of at least about 90,000 psi, a yield strength of at least about 30,000 psi, and an elongation at break of at least about 30%.

3. The process of claim 1 wherein said slug comprises austenitic 301N steel and said steel sheet after reducing the thickness said steel sheet by passing said steel sheet through said cold rolling mill has a tensile strength of at least about 95,000 psi, a yield strength of at least about 45,000 psi, and an elongation at break of at least about 40%.

4. The process of claim 1 wherein said austenitic 301 steel consists essentially of by weight less than about 0.03% carbon, less than about 2.00% manganese, less than about 0.005% sulfur, less than about 0.030% sulfur, less than about 1.00% silicon, between about 16.00% and about 18.00% chromium, between about 6.00% and about 8.00% nickel, less than about 0.025% residual elements, and balance iron, and wherein said austenitic 301N steel consists essentially of by weight less than about 0.03% carbon, less than about 2.00% manganese, less than about 0.005% sulfur, less than about 0.030% phosphorous, less than about 1.00%

silicon, less than about 0.30% nitrogen, between about 16.00% and about 18.00% chromium, between about 6.00% and about 8.00% nickel, less than about 0.025% residual elements, and balance iron.

5. The process of claim 1 wherein said steel sheet is reduced between about 5% and about 13% in the last of its said passes through said cold rolling mill.

6. The process as defined in claim 1 wherein said slug is passed through said hot rolling mill at a temperature of about 1100°C.

7. The process as defined in claim 1 further comprising pickling said steel sheet in an acid solution after quenching said steel sheet.

8. A process for forming a steel sheet, said process comprising the steps of:

providing a slug of steel, said slug of steel being selected from the group consisting of austenitic 301 steel and austenitic 301N steel, wherein said austenitic 301 steel comprises by weight less than about 0.03% carbon, less than about 2.00% manganese,

less than about 0.005% sulfur, less than about 0.030% phosphorous, less than about 1.00% silicon, between about 16.00% and about 18.00% chromium, between about 6.00% and about 8.00% nickel, less than about 0.025% residual elements, and balance iron, and wherein said austenitic 301N steel comprises by weight less than about 0.03% carbon, less than about 2.00% manganese, less than about 0.005% sulfur, less than about 0.030% phosphorous, less than about 1.00% silicon, less than about 0.30% nitrogen, between about 16.00% and about 18.00% chromium, between about 6.00% and about 8.00% nickel, less than about 0.025% residual elements, and balance iron;

reducing the thickness of said slug by passing said slug through a hot rolling mill while said slug is at a temperature of about 1000°C to about 1200°C, until said slug is formed into a steel sheet;

quenching said steel sheet to lower the temperature of said steel sheet after hot rolling; and

reducing the thickness of said steel sheet by passing said steel sheet in multiple passes through a cold rolling mill, said steel sheet being reduced between about 5% and about 13% in the last of its said passes through said cold rolling mill.

9. A welded construction comprising a plurality of individual parts, a weld between said parts and joining them together, at least one of said welded parts comprising a steel sheet formed by the process of claim 1, said weld and a portion of said at least one of said welded parts adjacent said weld being resistant to hydrogen embrittlement and stress corrosion cracking.

10. The welded construction of claim 9 wherein said weld is formed by laser welding said parts.

11. The welded construction of claim 10 wherein said welded construction defines a chamber which is capable of storing an air bag inflation gas.